ABSTRACT OF THE DISCLOSURE

A measuring device for determining the oxygen activity in metal melts or slag melts has a measuring head arranged on the end of a carrier tube, on which head an electrochemical measuring cell is arranged. The electrochemical measuring cell has a solid electrolyte tube closed on one end, which is surrounded on the closed end and at least on a portion of its periphery by a steel tube closed on one end. A reference material and a filler material adjoining the reference material are arranged inside the solid electrolyte tube on its closed end. A metal rod is arranged as an electrode along the solid electrolyte tube in such a manner that, on the one hand, it stands in contact with the reference material and, on the other hand, it projects out of the open end of the solid electrolyte tube. The open end of the solid electrolyte tube has a closure which is constructed as a cap, which fits on the exterior of the steel tube or the solid electrolyte tube, and the closure is gas-permeable.